REMARKS/ARGUMENTS

Claims 1-39 and 46-53 remain pending herein. New claims 54-59 are added hereby. Thus, claims 1-39 and 46-59 are pending herein. Claims 1-39, 46-48, and 50-52 have been withdrawn from consideration by the U.S. PTO.

Claims 49 and 53 were rejected under 35 U.S.C. §101.

The U.S. PTO relies on the Office Gazette Notice of November 22, 2005, and asserts that claims 49 and 53 are drawn to a computer algorithm.

Claim 49 recites a computer readable medium having a computer program stored thereon. Claim 53 recites a system which comprises a memory, a system bus and a processor which has a computer program stored thereon. The subject matter of claims 49 and 53 is not a "computer algorithm" as defined in the Official Gazette Notice of November 22, 2005.

The attention of the U.S. PTO is particularly directed to Annex IV of the Official Gazette Notice of November 22, 2005, the seventh paragraph, which states:

> Computer programs are often recited as part of a claim. USPTO personnel should determine whether the computer program is being claimed as part of an otherwise statutory manufacture or machine. In such a case, the claim remains statutory irrespective of the fact that a computer program is included in the claim. . . . When a computer program is recited in conjunction with a physical structure, such as a computer memory, USPTO personnel should treat the claim as a product claim.

In the present situation, claim 49 recites a computer readable medium, which is a physical structure, on which is stored a computer program as recited in claim 49. Claim 53 recites a system comprising a memory, a system bus and a processor, each of which is a physical structure, in which a computer program as recited in claim 53 is stored on the processor. The subject matter claimed in the present application therefore is clearly the kind of subject matter described in the quoted material set forth above as being in compliance with

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35 U.S.C. §101, namely, subject matter in which a computer program is part of an otherwise statutory manufacture or machine.

Accordingly, it is respectfully requested that the U.S. PTO reconsider and withdraw this rejection.

Claims 49 and 53 were rejected under 35 U.S.C. §103(a) over Kamtekar et al., "Protein Design by Binary Patterning of Polar and Nonpolar Amino Acids" (Kamtekar et al.) in view of Taylor, "A computer program for translating DNA sequences into protein" (Taylor).

Claim 49 recites a computer readable medium on which a computer program is stored, and claim 53 recites a system comprising a processor which has a computer program stored thereon. In each of claims 49 and 53, the computer program comprises code for determining an actual number of first symbols (i.e., a symbol which is assigned in place of each amino acid which is within a predetermined set of amino acids) in each window along each sequence of symbols. Each window comprises a quantity of adjacent symbols in a sequence of symbols. For example, a window comprising a predetermined quantity (e.g., nine) symbols is moved along a sequence of symbols, and at each position of the window along the sequence of symbols, a determination is made as to the number of symbols, then within the window, which are one of the amino acids within the predetermined set of amino acids.

The computer programs in claims 49 and 53 each also include code for comparing each actual number of first symbols for each window to an expected number of first symbols, and assigning a significant signal characteristic to each such window in which the actual number differs from the expected number by at least a predetermined threshold amount. For example, if the expected number of first symbols within each window happens to be three and the "predetermined threshold amount" is selected to be two, if a particular window has four

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first symbols, a significant signal characteristic would not be assigned to that window – in such a scenario, if a particular window has five first symbols, a significant signal characteristic would be assigned to that window.

The computer programs recited in claims 49 and 53 also each include code for determining the actual number of such significant signals in each reading frame of the nucleotide sequence.

Kamtekar et al. discloses a strategy in which a large collection of synthetic genes was constructed in which all of the sequences shared the same pattern of polar and non-polar residues. As noted in the Office Action, Figure 1 contains an illustration in which generic polar residues are shown as white circles and generic non-polar residues are shown as black circles.

As noted in the Office Action, Taylor discloses a program for translating one or two DNA sequences into amino acid sequences.

Neither of the applied references, nor any combination thereof, would disclose or suggest (1) code for determining, for each window along a sequence of symbols, an actual number of first symbols which are within a predetermined set of amino acids, or (2) code for comparing each actual number of first symbols for each window to an expected number of first symbols, and assigning a significant signal characteristic to each window in which the actual number differs from the expected number by at least a predetermined threshold amount, or (3) code for determining an actual number of significant signals in each reading frame of a nucleotide sequence. That is, neither Kamtekar nor Taylor contain any suggestion of the concept of moving a window (as defined in the present claims) along an amino acid sequence and determining, for each such window, the number of amino acids which are within a predetermined set of amino acids, then comparing such value for each window to an

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expected value and determining in how many windows such value differs from the expected value by at least a threshold amount. Instead, Taylor merely discloses translating DNA sequences into amino acid sequences, and Kamtekar discloses representing polar residues in the amino acid sequence with one kind of indicia and nonpolar residues in the amino acid sequence with another type of indicia.

In view of the above, claims 49 and 53 are in condition for allowance. In addition, favorable consideration of new claims 54-56 (each of which ultimately depends from claim 49) and new claims 57-59 (each of which ultimately depends from claim 53) is respectfully requested.

If the Examiner believes that contact with Applicants' attorney would be advantageous toward the disposition of this case, the Examiner is herein requested to call Applicants' attorney at the phone number noted below.

The Commissioner is hereby authorized to charge any additional fees associated with this communication or credit any overpayment to Deposit Account No. 50-1446.

Respectfully submitted,

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Date

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